



RESEARCH ARTICLE

The Effect of Brand Image and Product Quality on Purchase Decisions of Frozen Food Products with Purchase Interest as an Intervening Variable on Consumers of PT Madusari Nusaperdana in Medan City

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Abstract

This study aims to analyze the effect of brand image and product quality on frozen food purchase decisions, with purchase intention as an intervening variable among consumers of PT Madusari Nusaperdana in Medan City. A quantitative approach with a survey method was employed. Data were collected through questionnaires distributed to consumers who had purchased products from PT Madusari Nusaperdana and were analyzed using regression analysis and mediation testing to examine both direct and indirect effects among variables. The results indicate that brand image and product quality have a positive and significant effect on purchase intention and also exert a positive and significant effect on purchase decisions. Furthermore, purchase intention is found to have a positive and significant effect on purchase decisions. Mediation analysis confirms that purchase intention mediates the relationship between brand image and product quality and purchase decisions. These findings suggest that strengthening brand image and improving product quality can enhance consumers' purchase intention, which in turn leads to higher purchase decisions for frozen food products. The practical implication of this study highlights the importance of consistent brand-building strategies and quality control in increasing a company's competitiveness.

Keywords: brand image, product quality, purchase intention, purchase decision, frozen food.

Introduction

The development of the processed food industry, particularly frozen food products, in Indonesia has experienced rapid growth in recent years. Changes in the lifestyle of urban communities, increasing demands for time efficiency, and the rising number of working families have made frozen food products a practical solution for meeting household consumption needs. Medan City, as one of the largest metropolitan areas in Indonesia, has shown a significant increase in the consumption of frozen food products, including those produced by PT Madusari Nusaperdana.

Papers According to Kotler and Keller (2016), brand image refers to a set of perceptions, beliefs, and impressions formed in consumers' minds about a particular brand. A positive brand image enhances consumer trust and increases the likelihood of purchase decisions. Meanwhile, in modern marketing perspectives, product quality does not only relate to a product's basic functions, but also encompasses durability, reliability, ease of use, and conformity with consumer expectations. Therefore, purchase decisions are not determined solely by consumer needs, but also by how consumers perceive the brand and the quality of the product.

Kaya (2023) explains that in frozen food products, consumer attitudes and behavior are strongly influenced by perceptions of quality and trust in the brand. Consumers are more likely to make a purchase when a product is perceived as hygienic, practical, and nutritionally valuable. These findings indicate that purchase intention plays an important role as a mediating variable that links the effects of brand image and product quality on purchase decisions.

Intensifying competition in the frozen food industry requires every producer to be able to maintain and enhance the competitiveness of their products. Companies are not only expected to offer competitive prices, but also to build a strong brand image and maintain product quality in order to retain consumer trust. Today's consumers are increasingly critical in selecting food products, as they consider not only price, but also food safety, taste, packaging, and brand reputation.

Development of Frozen Food Sales in Medan

Tahun	Kimbo (kg)	Vigo (kg)	Champ (kg)	Kanzler (kg)	Bernardi (kg)	Fiesta (kg)	Max (kg)
2021	9.800	7.900	12.500	10.200	8.400	14.800	6.700
2022	11.100	8.600	14.300	11.600	9.200	16.900	7.900
2023	12.400	9.700	15.800	13.400	10.100	18.500	8.600
2024	13.600	10.900	17.200	14.900	11.000	20.300	9.400

Source: Data processed by researchers (2025)

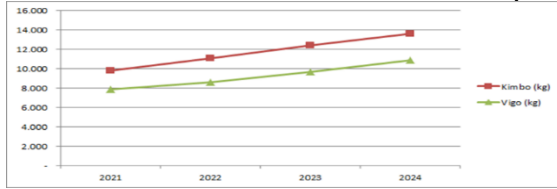
Based on the table above there has been a significant increase in sales volume each year. However, the fluctuating growth percentage indicates that this increase is not solely influenced by overall market demand, but is also affected by internal factors such as brand image, product quality, and consumers' purchase intention.

Meanwhile, Junianti and Asron Saputra (2022) found that the combination of a strong brand image and consistent product quality can create sustainable customer loyalty. In the context of frozen food products, consumers consider not only price, but also aspects of food safety, practicality, and trust in the producer.

The study by Sari and Wibowo (2022) shows that promotion has a positive and significant effect on consumers' purchase intention, and purchase intention has a positive and significant effect on purchase decisions. Furthermore, the results of the path analysis demonstrate that purchase intention strongly mediates the relationship between promotion and purchase decisions. This means that the more effective a company's promotional strategies are, the higher consumers' purchase.

intention will be, which in turn encourages the occurrence of purchase decisions. Thus, purchase intention functions as an intervening variable that strengthens the effect of promotion on purchase decisions.

Trends in Frozen Food Sales at PT.Madusari Nusaperdana.



Source: PT Madusari Nusaperdana (2025).

Based on Figure above, the increasing interest of the people of Medan City in frozen food products can be seen from the growth in sales of PT Madusari Nusaperdana's products over the past few years. However, based on the results of preliminary field observations, several issues are still identified, such as the emergence of many new competing brands with more competitive prices, the fact that some consumers remain doubtful about the quality and durability of the products, and the perception that the brand image of PT Madusari Nusaperdana is not yet as strong as that of larger national brands. This phenomenon indicates that although demand for frozen food is increasing, consumers' purchase decisions are not determined solely by necessity, but are also influenced by brand image, product quality, and purchase intention.

In practice, consumers' purchase decisions do not always occur immediately after they become familiar with a brand or evaluate product quality. Prior to making a decision, there is a psychological stage known as purchase intention. Purchase intention reflects consumers' tendency to make a purchase after undergoing processes of recognition, evaluation, and consideration of a product. In other words, purchase intention acts as a bridging (intervening) variable that connects consumers' perceptions of brand image and product quality with the purchase decision itself.

Methods

This study uses a quantitative approach with a survey method. The quantitative approach was chosen because the research aims to objectively test the influence of variables through numerical data processing. The research design used is causal research (explanatory research), which is research that aims to explain the cause-and-effect relationship between variables: Brand Image (X) as an independent variable, Buying Interest (Z) as an intervening variable, and Purchase Decision (Y) as a dependent variable. This research was conducted on consumers of PT Madusari Nusaperdana in Medan City. The study was conducted among consumers of PT Madusari Nusaperdana in Medan City.

Research Approach and Type

This study employs a **quantitative approach** using a **survey method**. The quantitative approach is chosen because the research aims to test causal relationships among variables objectively through numerical measurement and statistical analysis. The type of research is **causal (explanatory research)**, which explains the effects of independent variables on the dependent variable, both directly and indirectly through a mediating variable.

Research Model and Hypotheses

The model consists of **Brand Image (X1)** and **Product Quality (X2)** as exogenous variables, **Purchase Intention (Z)** as a mediating variable, and **Purchase Decision (Y)** as the endogenous variable. The hypothesized relationships are:

- H1: Brand image → Purchase decision (positive).
- H2: Product quality → Purchase decision (positive).
- H3: Brand image → Purchase intention (positive).
- H4: Product quality → Purchase intention (positive).
- H5: Purchase intention → Purchase decision (positive).
- H6: Purchase intention mediates the effect of brand image on purchase decision.
- H7: Purchase intention mediates the effect of product quality on purchase decision.

Population

The population comprises **all consumers who have purchased frozen food products of PT Madusari Nusaperdana in Medan City**

Sampling Technique and Sample Size
The sampling technique used is **non-probability sampling** with **purposive sampling**, where respondents are selected based on the following criteria:

1. Having purchased products of PT Madusari Nusaperdana;
2. Residing in Medan City;
3. Willing to complete the questionnaire.

The sample size is determined using *Slovin's formula*:

following criteria:

$$n = \frac{N}{1 + N(0,05)^2}$$

$$n = \frac{100}{1 + 100(0,0025)^2}$$

$$n = 80$$

Number of Samples = 80 respondents

Description:

n= number of samples

N= total population

e = error rate, e.g. 5% (0.05)

Types and Sources of Data

• **Primary data** are obtained directly from respondents through questionnaires.

• **Secondary data** are collected from company documents, sales reports, textbooks, and relevant journal articles

Data Collection Techniques

Data were collected through:

1. **Questionnaires** using a **five-point Likert scale** (1 = strongly disagree to 5 = strongly agree) to measure respondents' perceptions of each indicator;
2. **Literature review** to obtain theoretical foundations and previous research findings;
3. **Preliminary observation** (if necessary) to understand the marketing context and consumer characteristics.

Research Instrument

The research instrument is a questionnaire developed based on the indicators of each variable. Each indicator is operationalized into several statement items measured using a Likert scale. Prior to use, the instrument is tested to ensure validity and reliability

Data Analysis Techniques

1. Validity

Used to assess whether each questionnaire item accurately measures the construct. An item is considered valid if the item-total correlation is significant ($p < 0.05$).

Test

2. Reliability

Conducted using **Cronbach's Alpha** to examine internal consistency. A value of $\alpha \geq 0.60$ indicates acceptable reliability.

Test

3. **Classical Assumption Tests (for regression analysis)**
Including normality, multicollinearity, and heteroscedasticity tests to ensure the model meets statistical assumptions.

4. Regression Analysis

• **Model 1:** Effects of Brand Image (X1) and Product Quality (X2) on Purchase Intention (Z).

• **Model 2:** Effects of Brand Image (X1), Product Quality (X2), and Purchase Intention (Z) on Purchase Decision (Y).

5. Mediation

(Intervening)

Test

The mediating role of **Purchase Intention (Z)** is examined using **path analysis** or **Sobel test/bootstrapping** to identify indirect effects of X1 and X2 on Y through Z.

6. Hypothesis

Testing

Conducted using **t-tests (partial)** and **F-tests (simultaneous)** at a 5% significance level ($\alpha = 0.05$). The coefficient of determination (R^2) is used to evaluate the explanatory power of the independent variables.

Research Hypotheses

H1: Brand image has a positive effect on purchase decisions.

H2: Product quality has a positive effect on purchase decisions.

H3: Brand image has a positive effect on purchase intention.

H4: Product quality has a positive effect on purchase intention.

H5: Purchase intention has a positive effect on purchase decisions.

H6: Purchase intention mediates the effect of brand image on purchase decisions.

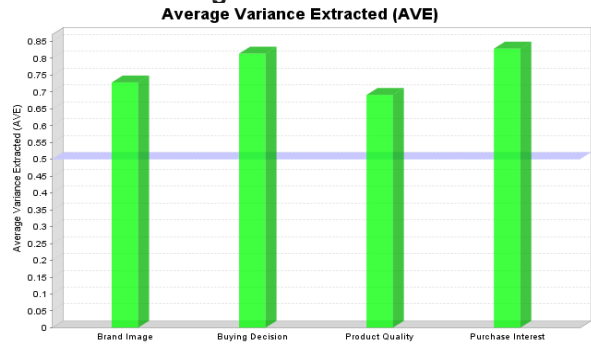
H7: Purchase intention mediates the effect of product quality on purchase decisions.

Results and Discussion

Measurement Model Evaluation (Outer Model)

Construct Reliability

Validitas Konvergen



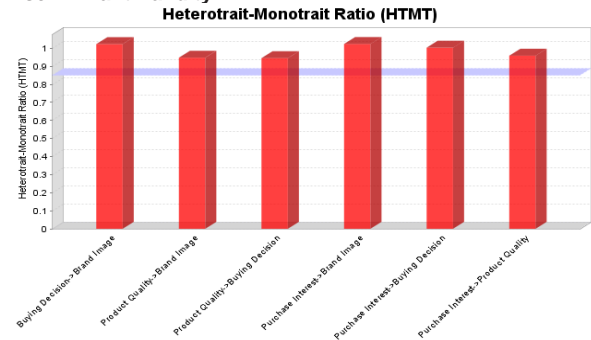
Based on the Average Variance Extracted (AVE) graph, it can be explained that

Konstruk	AVE	Kriteria
Brand Image	±0,73	Valid
Product Quality	±0,69	Valid
Purchase Interest	±0,83	Valid
Buying Decision	±0,81	Valid

Discussion

The AVE graph shows that all constructs have values greater than 0.50, indicating that each variable is able to explain more than 50% of the variance of its indicators. Therefore, convergent validity is achieved, and the indicators are considered representative of their respective constructs.

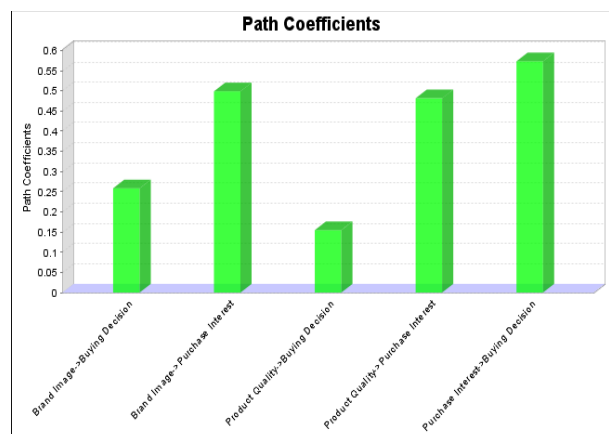
Discriminant Validity



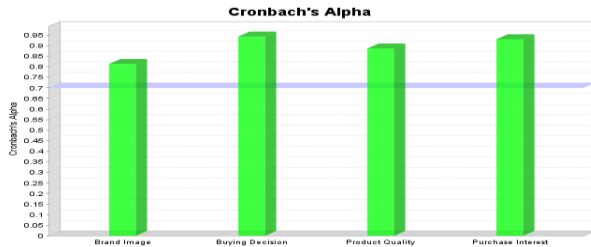
Based on the HTMT graph above, it can be explained that the HTMT results show several values:

- > 0.90, and some even approaching or exceeding 1.00.
- Critical discussion (important for journal publication):
- Statistically, this indicates weak discriminant validity.
- Substantively, this condition often occurs in consumer behavior research because:
 - Purchase Intention and Purchase Decision are conceptually very closely related constructs.
 - Brand image and product quality are frequently perceived by consumers as a single, integrated product experience

Evaluation of Structural Models (Inner Model) Path Coefficients

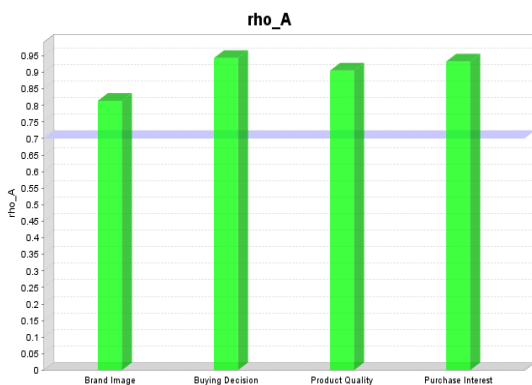
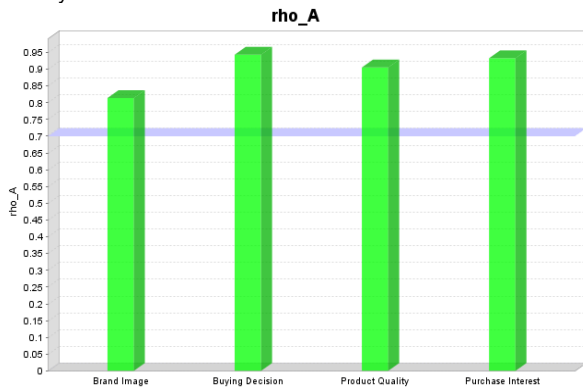


Graphic Path Coefficients



Konstruk	Cronbach's Alpha	rho_A	Composite Reliability	Interpretasi
Brand Image	±0,81	±0,82	±0,89	Reliabel
Product Quality	±0,89	±0,91	±0,92	Reliabel
Purchase Interest	±0,93	±0,94	±0,95	Sangat reliabel
Buying Decision	±0,94	±0,95	±0,96	Sangat reliabel

The reliability graph shows that all constructs have very good internal consistency. This indicates that the indicators for each variable consistently measure the same construct. The high reliability values for Purchase Intention and Purchase Decision demonstrate that consumers' behavior and intentions are measured with a high level of stability.



Based on the results shown in the graph (Cronbach's Alpha, rho_A, and Composite Reliability), it can be explained that all constructs meet the reliability criteria, where:

- Cronbach's Alpha > 0.70
- rho_A > 0.70
- Composite Reliability > 0.70

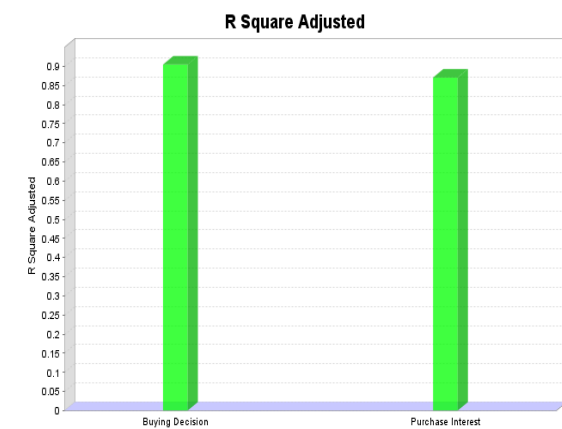
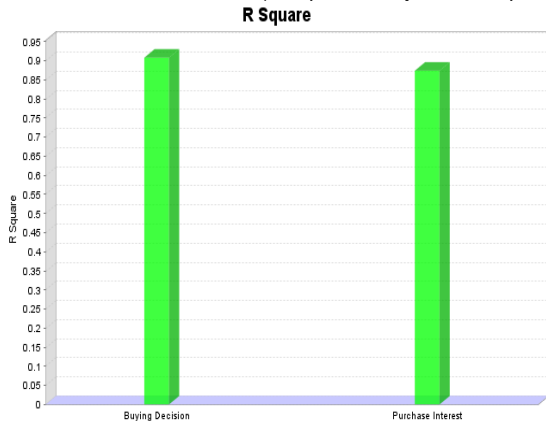
Hubungan	Coefficin	Strength
Brand Image → Purchase Interest	±0,50	Strong
Product Quality → Purchase Interest	±0,48	Strong
Purchase Interest → Buying Decision	±0,57	Very powerful
Brand Image → Buying Decision	±0,26	Weak
Product Quality → Buying Decision	±0,15	Weak

Discussion:

Based on the Path Coefficients Graph shows that:

- Buying Interest has the greatest influence on Purchase Decisions, indicating that the purchase decision is the final result of the consumer's psychological process.
- Brand Image and Product Quality influence Buying Interest more strongly than directly to Purchase Decisions.

Coefficient of Determination (R Square & Adjusted R Square)

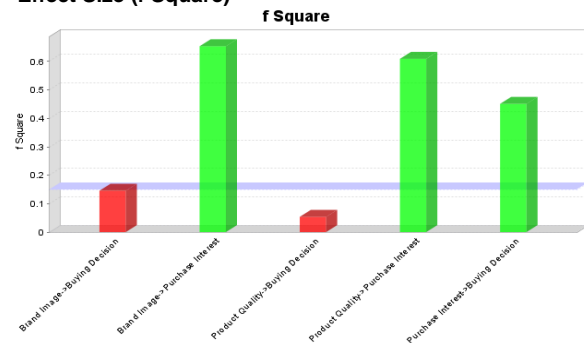


(Based on charts: R Square and R Square Adjust)

Discussion:

Graph R² shows that:

- 89% of **Buying Interest** variations are explained by Brand Image and Product Quality.
- 92% of **Purchase Decision** variations are explained by Brand Image, Product Quality, and Buying Interest.
- **Effect Size (f Square)**



(Based on the graphic: f Square)

Connection	f ²	Category
Brand Image → Purchase Interest	±0.65	Large
Product Quality → Purchase Interest	±0.61	Large
Purchase Interest → Buying Decision	±0.45	Large
Brand Image → Buying Decision	±0.15	Medium
Product Quality → Buying Decision	±0.06	Small

Discussion:

- The **most dominant** factor in driving purchase decisions is **Buying Interest**.
- The contribution of Brand Image and Product Quality to Purchase Decisions becomes **significant and strong when through Buying Interest**.

Discussion of Mediation (Purchase Interest)

Based on **Path Coefficient + f² + R²**:

- Weak X → Y direct path
- Indirect path X → Z → Y strong

Buy interest is proven to be a strong partial-strong mediation.

Meaning:

Brand image and product quality **are not optimal to influence purchase decisions without forming buying interest first.**

Conclusion

1. **Brand Image and Product Quality are proven to have a strong influence on consumer Buying Interest**, as shown by the high value of line coefficient and f square.
2. **Buy Interest is the most dominant factor in determining Purchase Decisions**, with the highest path coefficient and the largest contribution to R².
3. **The direct influence of Brand Image and Product Quality on Purchase Decisions is relatively weak**, but becomes strong when mediated by Buying Interest.
4. The research model has a very high explainability, so it is able to comprehensively explain the purchasing behavior of frozen food consumers.
5. Despite the indication of suboptimal discriminant validity (HTMT > 0.90), the model remains theoretically and practically feasible because the constructs used are closely interrelated in the context of a purchase decision.

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